

IN THE CLAIMS:

Please amend claims 1, 20-22, and 25, and add new claims 29 and 30 as follows:

1. (Currently Amended) An injection mold for encapsulating an integrated circuit chip in an encapsulation material so as to form a semiconductor package containing the chip, said injection mold comprising:

at least one injection cavity defined by a wall, the injection cavity being able to house the chip and receive the encapsulation material so as to encapsulate the chip in a block of the encapsulation material; and

an insert ~~having~~ fixedly attached so as to have a transverse surface that lies parallel to one face of the chip and a front part that forms a first portion of the wall of the injection cavity ~~and a transverse surface that lies parallel to one face of the chip~~ such that the encapsulation material is able to contact the transverse surface of the insert during encapsulation so that the transverse surface of the insert determines the roughness of a region of the face of the block of encapsulation material that corresponds to the transverse surface of the insert,

wherein the transverse surface of the insert has a roughness that is chosen such that the face of the block of encapsulation material of the semiconductor package has a suitable roughness in ~~[[a]]~~ the region of the face of the block of encapsulation material corresponding to the transverse surface of the insert.

2. (Original) The injection mold according to claim 1, wherein the insert protrudes into the interior of the injection cavity so as to form a hollow in the package in the region corresponding to the transverse surface of the insert.

3. (Previously Presented) The injection mold according to claim 2, further comprising a blind annular space around at least a part of the insert, the blind annular space emerging in the injection cavity.

4. (Original) The injection mold according to claim 1, wherein the front part of the insert has a protruding transverse surface surrounded by an annular shoulder that is set back with respect to the protruding transverse surface.
5. (Previously Presented) The injection mold according to claim 4, further comprising a blind annular space around at least a part of the insert, the blind annular space emerging in the injection cavity.
6. (Previously Presented) The injection mold according to claim 1, further comprising a blind annular space around at least a part of the insert, the blind annular space emerging in the injection cavity.
7. (Original) The injection mold according to claim 6, wherein the annular space is enlarged in a part remote from the injection cavity.
8. (Previously Presented) The injection mold according to claim 1, further comprising:
first and second parts having a parting line and between them defining the injection cavity,
wherein the first part has a passage in which the insert is fixed in such a way that the transverse surface of the insert lies parallel to the parting line of the first and second parts, and
the second part is provided with at least one movable demolding member opposite the insert and means for keeping the demolding member bearing on the package when the second part of the mold is separated from the first part of the mold during demolding.
9. (Original) The injection mold according to claim 8, wherein the first part of the mold includes pushers for demolding the package.

10-17. (Canceled)

18. (Previously Presented) The injection mold according to claim 1, further comprising a first part that forms a second portion of the wall of the injection cavity, the first part having a passage in which the insert is fixed such that the front part of the insert forms the first portion of the wall of the injection cavity.

19. (Previously Presented) The injection mold according to claim 18, further comprising a second part that forms a third portion of the wall of the injection cavity, the first and second parts having a parting line and between them defining the injection cavity.

20. (Currently Amended) An injection mold for encapsulating an integrated circuit chip in [[an]] a block of encapsulation material so as to form [[a]] an optical semiconductor package containing the chip, said injection mold comprising:

a first part and a second part having a parting line, the first part having a passage;
at least one injection cavity defined between the first and second parts, the injection cavity being able to house the chip during encapsulation; and

an insert fixedly attached to the first part such that the insert is fixed in the passage of the first part such that so as to have a transverse surface that lies parallel to one face of the chip and a front part of the insert that forms a portion of the wall of the injection cavity such that the encapsulation material is able to contact the transverse surface of the insert during encapsulation so that the transverse surface of the insert determines the roughness of a region of the face of the block of encapsulation material that corresponds to the transverse surface of the insert, the insert having a transverse surface that lies parallel to one face of the chip,

wherein the transverse surface of the insert has a roughness that is chosen such that the face of the block of encapsulation material of the optical semiconductor package has a suitable roughness in [[a]] the region of the face of the block of encapsulation material corresponding to the transverse surface of the insert.

21. (Currently Amended) ~~[[A]]~~ An optical semiconductor package formed in the an injection mold according to claim 1 for encapsulating at least one integrated circuit chip in an encapsulation material,

said injection mold comprising:

at least one injection cavity defined by a wall, the injection cavity being able to house the chip and receive the encapsulation material so as to encapsulate the chip in a block of the encapsulation material; and

an insert having a front part that forms a first portion of the wall of the injection cavity and a transverse surface that lies parallel to one face of the chip,

wherein the transverse surface of the insert has a roughness that is chosen such that the face of the optical semiconductor package has a suitable roughness in a region corresponding to the transverse surface of the insert,

said optical semiconductor package comprising:

an encapsulation block having a transverse face; and

at least one integrated circuit chip contained in the encapsulation block, one face of the chip including an optical sensor and lying parallel to the transverse face of the encapsulation block,

wherein the material of the encapsulation block that encapsulates the chip is transparent, ~~and~~

the transverse face of the encapsulation block includes a region located opposite the optical sensor that has a roughness that is less than the roughness of at least the rest of the transverse face of the encapsulation block, and

the region of the transverse face of the encapsulation block of the optical semiconductor package at least substantially covers the optical sensor of the chip.

22. (Currently Amended) The semiconductor package according to claim 21, wherein the region of the transverse face of the encapsulation block of the optical semiconductor package at least covers the optical sensor of the chip.

23. (Previously Presented) The semiconductor package according to claim 21, wherein the roughness of the region is less than 0.10.

24. (Previously Presented) The semiconductor package according to claim 21, wherein the roughness of the region is less than 0.07.

25. (Currently Amended) An information processing system including at least one optical semiconductor package ~~formed in the injection mold~~ according to claim 21 ~~1~~, said optical semiconductor package comprising:

~~an encapsulation block having a transverse face; and~~

~~at least one integrated circuit chip contained in the encapsulation block, one face of the chip including an optical sensor and lying parallel to the transverse face of the encapsulation block;~~

~~wherein the material of the encapsulation block that encapsulates the chip is transparent;~~
and

~~the transverse face of the encapsulation block includes a region located opposite the optical sensor that has a roughness that is less than the roughness of at least the rest of the transverse face of the encapsulation block.~~

26. (Previously Presented) The information processing system according to claim 25, wherein the region of the transverse face of the encapsulation block of the optical semiconductor package at least covers the optical sensor of the chip.

27. (Previously Presented) The information processing system according to claim 25, wherein the roughness of the region of the transverse face of the encapsulation block of the optical semiconductor package is less than 0.10.

28. (Previously Presented) The information processing system according to claim 25, wherein the roughness of the region of the transverse face of the encapsulation block of the optical semiconductor package is less than 0.07.
29. (New) The injection mold according to claim 1, wherein the transverse surface of the insert is sized such that the region of the face of the block of encapsulation material of the optical semiconductor package at least substantially covers an optical sensor of the chip.
30. (New) The injection mold according to claim 1, wherein the roughness of the transverse surface of the insert is chosen such that the region of the face of the block of encapsulation material has a roughness that is less than the roughness of at least the rest of the transverse face of the encapsulation block.